

TCAT Murfreesboro

2019 Governor's Investment in Vocational Education (GIVE)

Giving Cannon County Students Opportunity to Succeed in High Demand, High Skill Careers

TCAT Murfreesboro

IN PARTNERSHIP WITH:

1. Upper Cumberland Workforce Development Board
2. Cannon County Schools
3. Cannon County Chamber of Commerce

Jeffrey Hopkins

1303 Old Fort Pkwy.

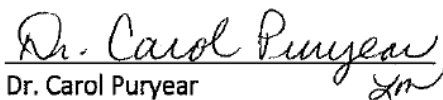
Murfreesboro, TN 37129

615-898-8010

jhopkins@tcatmurfreesboro.edu

Funding requested:

\$696,625


Dr. Carol Puryear
President of Higher Education
Institution (Fiscal Agent)


Jeffrey Hopkins
Special Industry Coordinator
Project Director (Lead Entity)

Giving Cannon County Students Opportunity to Succeed in High Demand, High Skill Careers

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Program Summary

Giving Cannon County Students Opportunity to Succeed in High Demand, High Skill Careers is a partnership between TCAT Murfreesboro, Upper Cumberland Workforce Development Board, and Cannon County Schools designed to bolster the rate of college-bound graduates and strengthen the skills and qualifications of undereducated adults in Cannon County through dual enrollment/dual credit, night courses, apprenticeship and co-op opportunities, and career and technical certifications.

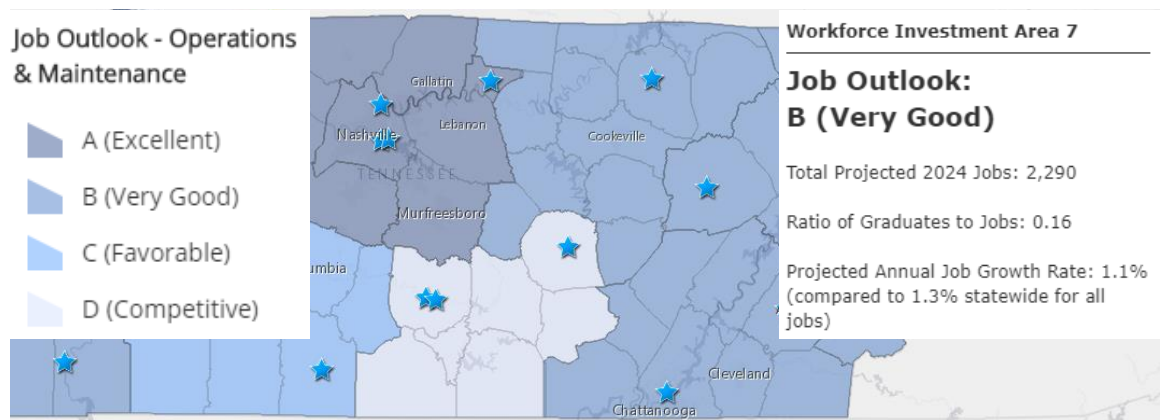
This program will be offered to currently enrolled high school students, beginning in their freshman year, as well as targeted groups of adult learners as identified through the Upper Cumberland Workforce Development Board. Through mentor-mentee relationships amongst institutions as well as relationships with private companies in the manufacturing sector, all stakeholders will be afforded academic, technical, and financial support throughout the duration of each stakeholder's participation in this program.

Giving Cannon County Students Opportunity to Succeed in High Demand, High Skill Careers will assist in meeting an industrial maintenance need in an area that is experiencing high demands and unmet needs; while providing industry certifications, work-based learning opportunities, and ultimately aiding the Drive to 55 state initiative with a better educated workforce.

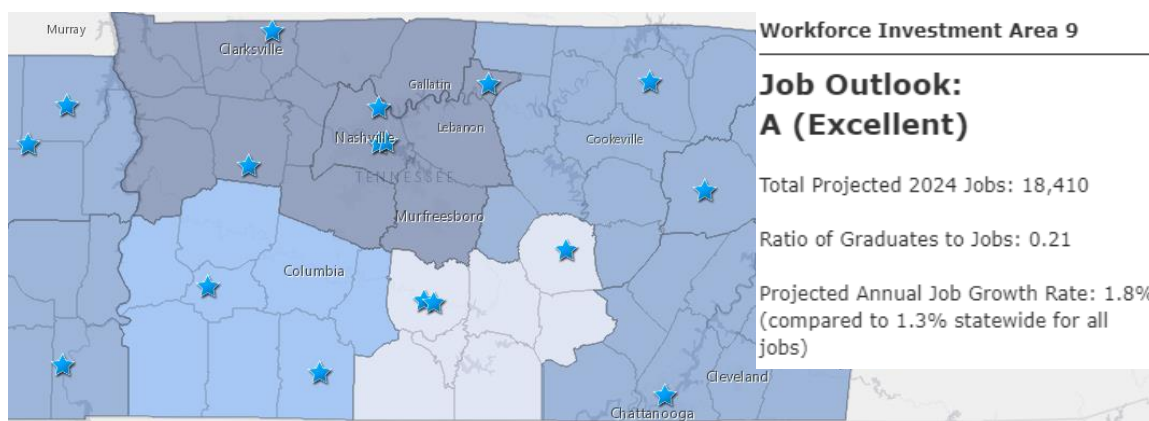
Giving Cannon County Students Opportunity to Succeed in High Demand, High Skill Careers

SECTION 1: Demonstration of Need

According to data compiled by the Tennessee Board of Regents, using data from the Tennessee Department of Labor & Workforce Development, TBR, and Integrated Postsecondary Education Data Systems (IPEDS), for every industrial maintenance job opening, there are only .16 graduates to fulfill that job opening within the Workforce Investment Area 7, in which Cannon County resides. This map shows the outlook for operations and maintenance jobs, as well as all colleges that currently offer programs in Industrial Maintenance, Industrial Electricity, and a few other related degrees. A ratio of graduates to jobs above 1.0 indicates that there are more graduates with operations and maintenance related degrees in that workforce investment area than operations and maintenance jobs in that workforce investment area.



Woodbury is also a bedroom community for Murfreesboro, TN within the Workforce Investment Area 9.



The Tennessee Higher Education Council (THEC) Academic Supply and Occupational Demand 2019 Report lists production occupations as one of the top six industry clusters that is in-demand and has continually mentioned production as a growing industry over the past five years. Manufacturing maintenance technicians are needed to keep pace with the growing demand.

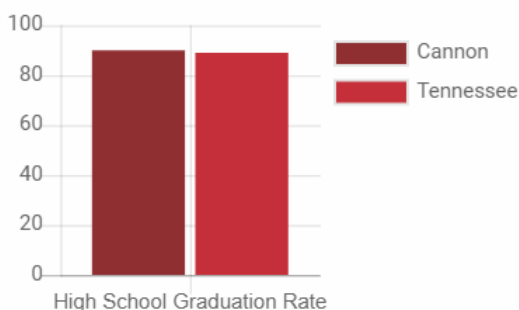
Manufacturing	277	13	\$47,423
Manufacturing	25,818	229	\$89,627

At the time of this report, there were 277 individuals in Cannon County employed within the manufacturing sector, through 13 businesses, and an average salary of \$47,423. While neighboring Rutherford County has 25,818 individuals employed within the manufacturing sector, through 220 businesses, and an average salary of \$89,627.

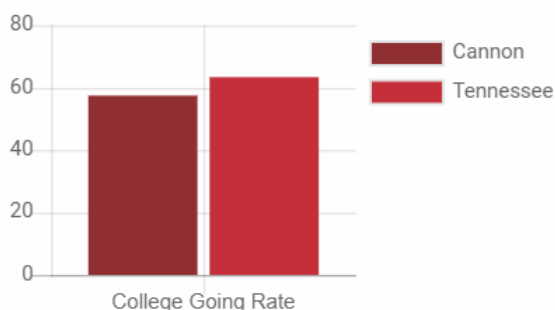
Drive to 55 - The Giving Cannon County Students Opportunity to Succeed in High Demand, High Skill Careers program is directly aligned to the Tennessee Drive to 55 goal of equipping 55% of working age Tennesseans with a degree or certification. While Cannon County has a high school graduation rate slightly higher than Tennessee's overall graduation rate, there

is a substantial gap between the graduation rate and the college going rate among Cannon County graduates.

HIGH SCHOOL GRADUATION RATE



COLLEGE GOING RATE



In order to combat this gap, the initiative to launch high school students into high demand, high skill careers such as industrial maintenance, Cannon County Career and Technical Education classes will include courses in Industrial Maintenance for both currently enrolled high school students and non-traditional adult learners through both day and night classes. Participants will attend the first-trimester of TCAT Murfreesboro Industrial Maintenance classes at Cannon County High School, second and third trimester classes at TCAT Murfreesboro, and fourth and fifth trimester classes will be held at TCAT Murfreesboro Smyrna Campus.

There will be an estimated 50 high school students enrolled in the industrial maintenance program, with an additional estimated 10 adult learners enrolled, as identified through Upper Cumberland Workforce Development Board.

Data supports the action – Of the 87.4% adults (age 25-64) with a high school education, only 18.7% have AA+ attainment. With the majority of Cannon County's adults (ages 25-64) lacking a degree or certification, Cannon County has a significant need for degree and

certification pathways. By providing currently enrolled high school students with a pathway to a highly sought after career and simultaneously helping undereducated adults further their education, this partnership between TCAT Murfreesboro, Upper Cumberland Workforce Development Board, and Cannon County Schools will not only bolster the economy and change the lives of families in Cannon County, it will drive certification and degree attainment, thus aligning with the Drive to 55 mission.

Educational Attainment Rate	County	TN
Adults with HS+ (age 25-64)	87.4%	88.7%
Adults with some college, no degree (age 25-64)	20.6%	21.5%
Adults with AA+ (age 25-64)	18.7%	35.3%
Adults with BA+ (age 25-64)	13.1%	27.6%
Socioeconomic Profile	County	TN
Population in Poverty Rate	17.0%	16.7%
Unemployment Rate	3.8%	4.0%
Population Age 25-64	7,365	3,465,094
Rate of Population Growth (2012-2016)	1.1%	3.1%
Population Projections (2012-2026)	2.2%	8.2%
Median Household Income	\$47,457	\$48,708

Linkage grant vs need - The graphic below shows the long term industry projections for Commercial and Industrial Machinery and Equipment Repair and Maintenance in Tennessee.

Industry	2016 Estimated Employment	2026 Projected Employment	Total 2016-2026 Employment Change	Annual Openings	Total 2016 - 2026 Percent Change	Total Annual Percent Change
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Main	4,350	4,950	600	N/A	13.81%	1.30%

Source: TN Dept of Labor & Workforce Dev, Div Emp Sec, LMI

Section 2: Program Plan

Giving Cannon County Students Opportunity to Succeed in High Demand, High Skill

Careers will be the framework for implementing the Industrial Maintenance Program at the Cannon County High School level, industry certifications, and program development, and create co-op and apprenticeship work based learning opportunities. We understand that students must be aware of potential workforce opportunities at an early age to aid in making more informed choices. The TCAT Industrial Maintenance Program overview is to provide diversified maintenance training to students to meet the occupational needs of prospective employers in our community. These courses will provide students with a thorough understanding of the methods of diagnosing, troubleshooting, and repairing industrial equipment. Each unit of study is approached by starting with the basic theory involved. Students will receive actual experience on equipment with industry approved methods of repairing and maintaining them. A student can progress into the Mechatronics curriculum. The Mechatronics portion incorporates advanced studies and troubleshooting in Electronics, Fluid Power, Motor Control, PLC's logic and programming, Robots, and Mechatronics manufacturing.

October 2019

- Meet with program partners and CTE representatives from Cannon County Schools to begin identifying the currently enrolled students that will participate in the Industrial Maintenance Program, curriculum alignment, and determine the instructor that will be responsible for leading the program at Cannon County High School.

- Upper Cumberland Workforce Development Board to identify adult learners for participation in the program.

November

- Create mentor relationships between TCAT Murfreesboro and Cannon County CTE faculty.

December

- TCAT Murfreesboro will purchase and own program supplies, materials, textbooks and equipment
- Submit program for approval to Tennessee Board of Regents and TCAT Accrediting Agency – Council on Occupational Education (approximate approval by September 2020)

January 2020

- Cannon County High School CTE students start Industrial Maintenance Dual Credit/Dual Enrollment Program. Complete ACT WorkKeys National Career Readiness Certificate.

March

- TCAT Murfreesboro equipment, supplies, materials, and textbooks begin to arrive at TCAT Murfreesboro and Cannon County High School campuses.

April

- TCAT Program approval by Tennessee Board of Regents
- Hire Industrial Maintenance Program Instructor for TCAT Murfreesboro
- TCAT Murfreesboro classroom renovations to support Industrial Maintenance Program

May - July

- Council on Occupational Education sight visit at Cannon County High School

- 1st group of adult learners begins first trimester at Cannon County High School

August

- Cannon County High School students enrollment into Industrial Maintenance Program

September

- TCAT Program approval by Council on Occupational Education
- 1st Adult learners group begins second trimester at TCAT Murfreesboro
- 2nd Adult learners group begins first trimester at Cannon County High School

January 2021

- 1st Adult learners group begins third trimester at TCAT Murfreesboro
- 2nd Adult learners group begins second trimester at TCAT Murfreesboro
- 3rd Adult learners group begins first trimester at Cannon County High School

September

- 1st Adult learners group begins fourth trimester at TCAT Murfreesboro - Smyrna Campus
- 2nd Adult learners group begins third trimester at TCAT Murfreesboro
- 3rd Adult learners group begins second trimester at TCAT Murfreesboro
- 4th Adult learners group begins first trimester at Cannon County High School
- 1st group of Cannon County High School students begin second trimester at TCAT Murfreesboro

January 2022

- 1st Adult learners group begins fifth trimester at TCAT Murfreesboro - Smyrna Campus
- 2nd Adult learners group begins fourth trimester at TCAT Murfreesboro - Smyrna Campus
- 3rd Adult learners group begins third trimester at TCAT Murfreesboro

- 4th Adult learners group begins second trimester at TCAT Murfreesboro
- 5th Adult learners group begins first trimester at Cannon County High School

April 2022 - GIVE Grant Ends

- 1st Adult learners group graduate Industrial Maintenance Program

Alignment of workforce data and Drive to 55 goals - Program participants will obtain highly marketable certifications that include OSHA 10, Certified Production Technician Certification, and ACT WorkKeys National Career Readiness Certificate. These certifications directly increase the number of Tennesseans, Cannon County residents specifically, with credentials, which helps to meet the state-wide goal of Drive to 55.

Measurable objectives for each phase of the project

- Within the first trimester, 95% of program participants will have completed the OSHA-10 certification.
- Increase enrollment in the TCAT Murfreesboro Industrial Maintenance Program by 10 students during the first year of the GIVE Grant.
- Increase enrollment in the TCAT Murfreesboro Industrial Maintenance Program by 50 students through the second year of the GIVE Grant.
- During the first 30 months of the program, 85% of program participants will participate in a WBL experience.

Recruitment of underrepresented student groups (gender, race/ethnicity, economically disadvantaged students, English Language Learners, students with disabilities) - Over 96% of the population of Cannon County identifies as white only. We will work with Cannon County Schools and Upper Cumberland Workforce Development Board to identify and recruit minorities to

participate in this program with an emphasis on women, non-native English speakers, and individuals with disabilities.

Project governance and accountability plan - The Project Steering Committee will include the following: Becky Hull with Upper Cumberland Workforce Development Board, Dr. Carol Puryear with TCAT Murfreesboro, Jeffrey Hopkins with TCAT Murfreesboro, and Crystal Kennedy with Cannon County Schools CTE Program. This group of individuals will help to oversee the GIVE Act Grant throughout its entirety. We will meet quarterly to monitor activities and to evaluate the success of the programs.

Structure of the optional work-based learning (WBL) program - We will utilize the WBL program through implementing co-op opportunities through our strong industry partnerships. TCAT Murfreesboro also has a registered Industrial Electrician apprenticeship program with the Department of Labor (DOL) that will be utilized for our students. The DOL registered apprenticeship program will add rigor and sustainability to our program.

Role of proposed equipment request - The students will need specific TDOE recommended equipment, supplies and textbooks. The Industrial Maintenance equipment identified by TCAT Murfreesboro instructors will be listed in appendix D and ownership will remain with TCAT Murfreesboro.

Section 3: Strength of Partnership

The cornerstone of the *Giving Cannon County Students Opportunity to Succeed in High Demand, High Skill Careers* proposal is the strong partnership between business, workforce, and education stakeholders in Cannon and Rutherford Counties. With existing relationships already in place, along with the GIVE core partners, the core partners will serve as a steering and

oversight committee to assure alignment with business and industry. Several of our program employer partners include: Global Industrial and Woodbury Farmers Co-Op.

Core partners include:

Partner	Representative	Title	Specific Experience
Workforce Agency: Upper Cumberland TN Workforce Board	Becky Hull	Executive Director	Manages WIOA grant funds as well as multiple federal and state workforce grants.
Higher Education: TCAT Murfreesboro	Carol Puryear	President	TCAT Murfreesboro has a wealth of experience in delivering workforce instruction as well as specific industry related training throughout Middle TN.
	Jeffrey Hopkins	Special Industry Coordinator	
K-12: Cannon County School System CTE	Crystal Kennedy	CTE Director	The CCSS has numerous successful CTE pathways to enhance vocational education opportunities for students.
Employers:			See MOU/letters of support.

Capabilities of each mandatory partner in ensuring project success:

TCAT Murfreesboro - Will serve as the Lead and fiscal agent for the Industrial Maintenance Pathway. In this role, TCAT will be responsible for all financial transactions related to the grant and assure their compliance to TBR financial policies and regulations. In addition, TCAT will coordinate dual enrollment and/or dual credit with Cannon County Schools, provide instruction related to the Industrial Maintenance training and coordinate work-based learning opportunities for youth and adults.

Upper Cumberland Workforce Development Board - As a partner, the Board will provide a direct connection to the myriad of services offered in the American Job Center system to customers, students, and employers participating in the *Giving Cannon County Students Opportunity to*

Succeed in High Demand, High Skill Careers Program, assist and develop with the implementation of career pathways in advanced manufacturing with local and regional employers and educational institutions, co-enroll youth and adult participants who qualify under the Workforce Innovation and Opportunity Act (WIOA) bringing additional supports to the individual to eliminate barriers to training, and provide additional tailored support services for qualified WIOA customers to assist in their transition to employment.

Cannon County Schools - Will implement Industrial Maintenance pathways, including instructional strategies, business partner engagement and work-based learning opportunities for students. In addition, the school system will manage dual enrollment and/or dual credit with Tennessee College of Applied Technology - Murfreesboro.

Section 4: Budget Plan

Clear alignment between funding request and grant activities: TCAT Murfreesboro will act as the fiscal agent and will oversee all budgetary and capital activities. Activities related to the GIVE Grant funds will be recorded and monitored to ensure acceptable use of the funds. The funding requested in the grant is directly related to grant activities.

Explanation of any anticipated indirect costs associated with the implementation and administration of the grant: The indirect cost associated with the implementation and administration of this grant will be incurred through the assurances of compliance to TBR financial policies and regulations. The implementation and oversight of the program, and the coordination of dual enrollment/dual credit and WBL opportunities facilitated by TCAT Murfreesboro.

Section 5: Sustainability

Upon completion of the grant period, Tennessee College of Applied Technology - Murfreesboro and its partners are committed to sustaining this grant. TCAT Murfreesboro pledges to cover the salary/benefits of the TCAT instructor hired for this partnership. An integral partner to assist TCAT Murfreesboro efforts in sustainability of the Industrial Maintenance Program is the local school system in Cannon County. The Cannon County School System currently has a very active Career and Technical Education Program that will serve as a direct pipeline to attract students to enroll in the industrial maintenance programs at TCAT Murfreesboro. TCAT Murfreesboro's goal is to have Memorandum of Understanding with Cannon County High School that allow graduates from the CTE classes to earn up to 432 contact hours of advanced credit. TCAT Murfreesboro will be able to sustainable the program through continued student enrollment and budgetary adjustments. The Upper Cumberland Workforce Development Board will provide financial assistance to eligible adult learners and will continue to identify program candidates.

Program partners will continue to meet on a semi-annual basis to evaluate and adjust the program as needed. Both TCAT Murfreesboro and Cannon County Schools will have dedicated spaces to house equipment and instructors skilled with equipment maintenance and upkeep. TCAT will continue to maintain a strong working relationship with private industry members and utilize co-ops and apprenticeship opportunities post GIVE Grant.

Section 6: Economic – Cannon County does not qualify as an economic distress or at-risk county.

Appendix B - Budget

GRANT BUDGET				
GIVE Program Competitive Grant				
The grant budget line-item amounts below shall be applicable only to expenses incurred during the following				
Applicable Period: BEGIN: October 24, 2019 END: April 25, 2022				
POLICY 03 Object Line-item Reference	EXPENSE OBJECT LINE-ITEM CATEGORY ¹	GRANT CONTRACT	GRANTEE PARTICIPATION	TOTAL PROJECT
1, 2	Salaries, Benefits & Taxes	\$309,375	\$78,125	\$387,500
4, 15	Professional Fee, Grant & Award ²	\$0	\$0	\$0
5, 6, 7, 8, 9, 10	Supplies, Telephone, Postage & Shipping, Occupancy, Equipment Rental & Maintenance, Printing & Publications	\$2,250	\$0	\$2,250
11, 12	Travel, Conferences & Meetings	\$1,500	\$0	\$1,500
13	Interest ²	\$0	\$0	\$0
14	Insurance	\$0	\$0	\$0
16	Specific Assistance To Individuals	\$0	\$0	\$0
17	Depreciation ²	\$0	\$0	\$0
18	Other Non-Personnel ²	\$33,500	\$0	\$33,500
20	Capital Purchase ²	\$300,000	\$0	\$300,000
22	Indirect Cost	\$50,000	\$0	\$50,000
24	In-Kind Expense	\$0	\$0	\$0
25	GRAND TOTAL	\$696,625	\$78,125	\$774,750

Appendix C – MOU and Support Letters

MEMORANDUM OF UNDERSTANDING
between
Cannon County Chamber of Commerce
and
Tennessee College of Applied Technology Murfreesboro

August 30, 2019

**Tennessee Higher Education Commission
404 James Robertson Parkway, Suite 1900
Nashville, TN 37243**

Dear Grantor,

I am writing this letter in support of the GIVE Grant application, led by the Tennessee College of Applied Technology Murfreesboro (TCAT Murfreesboro), to encourage and facilitate the alignment of the local workforce with Education initiatives designed to address the needs of the Industrial Maintenance Industry within Cannon County.

The Industrial Maintenance sector represents one of the most successful industry clusters in Tennessee. Entry level positions within these companies provide Cannon County residents with a livable wage, as well as excellent benefits and growth potential, while also increasing the overall economic health of the area.

The Cannon County Chamber of Commerce recognizes the need to develop skilled employees for the Industrial Maintenance Industry within the Middle Tennessee area, and is working to do so through the alignment of training programs with industry demand. The ability to provide a well-trained workforce to these companies will contribute to an environment of growth and success. It will also demonstrate to other industry groups that developing a world class workforce is both achievable and a top priority in Tennessee.

It is for these reasons that The Cannon County Chamber of Commerce fully supports this GIVE grant project. If you have any questions, please feel free to contact me. I may be reached at (615) 563-2222

Carolyn Motley

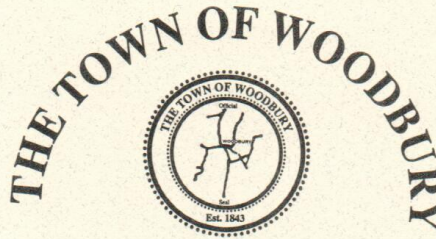
Director

Cannon County Chamber of Commerce

Carolyn Motley

MAYOR
ANDREW DUGGIN

VICE-MAYOR
FAYE NORTHCUTT KNOX



ALDERMEN

ADAM MELTON
HAROLD PATRICK
LU ANN CURLEE
TABITHA BROUSSARD SMITH
LOIS LARIMER

101 West Water Street
Woodbury, Tennessee 37190
615-563-4221
Fax: 615-563-6852

MEMORANDUM OF UNDERSTANDING
between
TOWN OF WOODBURY, TENNESSEE
and
Tennessee College of Applied Technology Murfreesboro

August 30, 2019

Tennessee Higher Education Commission
404 James Robertson Parkway, Suite 1900
Nashville, TN 37243

Dear Grantor,

I am writing this letter in support of the GIVE Grant application, led by the Tennessee College of Applied Technology Murfreesboro (TCAT Murfreesboro), to encourage and facilitate the alignment of the local workforce with Education initiatives designed to address the needs of the Industrial Maintenance Industry within Cannon County.

The Industrial Maintenance sector represents one of the most successful industry clusters in Tennessee. Entry level positions within these companies provide Cannon Country residents with a livable wage, as well as excellent benefits and growth potential, while also increasing the overall economic health of the area.

The Town of Woodbury local government recognizes the need to develop skilled employees for the Industrial Maintenance Industry within the Middle Tennessee area, and is working to do so through the alignment of training programs with industry demand. The ability to provide a well-trained workforce to these companies will contribute to an environment of growth and success. It will also demonstrate to other industry groups that developing a world class workforce is both achievable and a top priority in Tennessee.

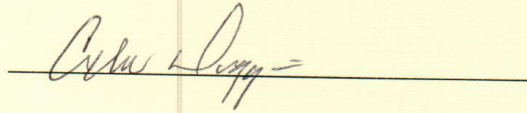
The Town of Woodbury prohibits discrimination on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status.

It is for these reasons that the Town of Woodbury local government fully supports this GIVE grant project. If you have any questions, please feel free to contact me. I may be reached at 615-563-4221.

Andrew Duggin

Mayor

Town of Woodbury





September 6, 2019

Tennessee Higher Education Commission
404 James Robertson Parkway, Suite 1900
Nashville, TN 37243

Dear Grant Committee:

The Upper Cumberland Local Workforce Development Board (UCLWDB) enthusiastically supports the GIVE grant funding request lead by the Murfreesboro TCAT in partnership with Cannon County Schools to provide Industrial Maintenance training. This unique partnership crosses Workforce service areas between Northern Middle and Upper Cumberland. The executive directors of both areas are in agreement that our ultimate goal is to serve our citizens regardless of service area guidelines.

Current regional and local data show that industrial maintenance is a high demand field with continued growth expected in the region. Funding this project will provide valuable training to a rural section of the Upper Cumberland wherein advanced training has been missing and will align perfectly with the Pathways (Pre-Engineering and Advanced Manufacturing) currently established for our service area.

Governor Lee has outlined an aggressive workforce plan which focuses heavily on STEM training in order to support employer needs in our state. This joint funding request falls right in line with that agenda. Please consider funding this important project.

Sincerely,

Becky Hull
Executive Director
Upper Cumberland
Local Workforce Development Board

MEMORANDUM OF UNDERSTANDING
between

Co-op Woodbury
and

Tennessee College of Applied Technology Murfreesboro

August 30, 2019

**Tennessee Higher Education Commission
404 James Robertson Parkway, Suite 1900
Nashville, TN 37243**

Dear Grantor,

I am writing this letter in support of the GIVE Grant application, led by the Tennessee College of Applied Technology Murfreesboro (TCAT Murfreesboro), to encourage and facilitate the alignment of the local workforce with Education initiatives designed to address the needs of the Industrial Maintenance Industry within Cannon County.

The Industrial Maintenance sector represents one of the most successful industry clusters in Tennessee. Entry level positions within these companies provide Cannon Country residents with a livable wage, as well as excellent benefits and growth potential, while also increasing the overall economic health of the area.

Co-op Woodbury recognizes the need to develop skilled employees for the Industrial Maintenance Industry within the Middle Tennessee area, and is working to do so through the alignment of training programs with industry demand. The ability to provide a well-trained workforce to these companies will contribute to an environment of growth and success. It will also demonstrate to other industry groups that developing a world class workforce is both achievable and a top priority in Tennessee.

It is for these reasons that Co-op Woodbury fully supports this GIVE grant project. If you have any questions, please feel free to contact me. I may be reached at (615) 563-4056.

NAME: Hunter Nunley

TITLE: Manager

COMPANY: Woodbury Farmers CO-OP

SIGNATURE: Hunter Nunley

MEMORANDUM OF UNDERSTANDING
between
Global Industries
and
Tennessee College of Applied Technology Murfreesboro

August 30, 2019

**Tennessee Higher Education Commission
404 James Robertson Parkway, Suite 1900
Nashville, TN 37243**

Dear Grantor,

I am writing this letter in support of the GIVE Grant application, led by the Tennessee College of Applied Technology Murfreesboro (TCAT Murfreesboro), to encourage and facilitate the alignment of the local workforce with Education initiatives designed to address the needs of the Industrial Maintenance Industry within Cannon County.

The Industrial Maintenance sector represents one of the most successful industry clusters in Tennessee. Entry level positions within these companies provide Cannon County residents with a livable wage, as well as excellent benefits and growth potential, while also increasing the overall economic health of the area.

Global Industries recognizes the need to develop skilled employees for the Industrial Maintenance Industry within the Middle Tennessee area, and is working to do so through the alignment of training programs with industry demand. The ability to provide a well-trained workforce to these companies will contribute to an environment of growth and success. It will also demonstrate to other industry groups that developing a world class workforce is both achievable and a top priority in Tennessee.

The Global Industries will support the GIVE grant project by advising all aspects of the proposal including equipment purchases, equipment installation, curriculum design, and providing cooperative work opportunities. The Upper Cumberland Workforce Development Board has also developed a solid partnership with TCAT Murfreesboro and is excited about the potential for addressing Workforce needs.

It is for these reasons that Global Industries fully supports this GIVE grant project. If you have any questions, please feel free to contact me. I may be reached at (615) 563-5120.

NAME: *Martha Whitmore* Martha Whitmore



TITLE: *CFO*

COMPANY: *Global Industrial Components, Inc.*

SIGNATURE: *Martha Whitmore*

Appendix D - Equipment Needs

1st Trimester - Cannon County High School


PART #	DESCRIPTION	QTY	PRICE	TOTAL
Section 1: Maintenance Operations				
950-MPF1	Mechanical Fabrication 1 Learning System Requires 120V/60Hz/1ph electrical, compressed air Includes: (1) Workstation; (1) Construction Panel; (1) Fabrication Parts Kit; (1) Mechanical Parts Kit; (1) Skill Component Set; (1) Pneumatic Kit; (1) Fabrication Tools Kit; (1) Mechanical Fabrication Component Set; (1) Fabrication Parts Set; (1) Mechanical Tools Kit; (1) Hardware Kit; (1) Bolt Stretch Kit; (1) M19004 Student Curriculum - Interactive PC-Based Multimedia; (1) C19004 Instructor's Guide; (1) K19004 Instructor's Resource Print CD; (1) D19004 Installation Guides; (1) H19004 Student Reference Guide.	1	\$ 8,912	\$ 8,912
				
950-MES1	Measurement Tools 1 Learning System Includes: (1) 91-400 Measurement Tools Level 1; (1) 91-401 Measurement Tools Level 2; (1) 91-410-B Digital Caliper; (1) 91-202 Parts Package; (1) 91-501 Data Management Software; (1) 91-500-A Amatrol SPC Software; (1) 91-601-B Computer Interface; (1) Tabletop Workstation; (1) N19017 Student Curriculum - Interactive PC-Based Multimedia; (1) C19017 Instructor's Guide; (1) K19017 Instructor's Resource Print CD; (1) D19017 Installation Guide; (1) H19017 Student Reference Guide.	1	\$ 6,518	\$ 6,518
				
82-610GC	Mobile Technology Workstation, Type 1, Gray Surface Plus Cabinet, 6 Foot	1	\$ 1,825	\$ 1,825

T7017A	AC / DC Electrical Learning System Requires 120V/60Hz/1ph electrical.	1	\$	5,816	\$	5,816
	Includes: (1) Workstation with AC/DC Power Supply; (1) Output Device Component Set; (1) Input Device Component Set; (1) Instrumentation Package; (1) Transformer Module; (1) Capacitor/Inductor Set; (1) NB227 Student Curriculum - Interactive PC-Based Multimedia; (1) CB227 Instructor's Guide; (1) KB227 Instructor's Resource Print CD; (1) DB227 Installation Guide; (1) HB227 Student Reference Guide.					
82-610GC	Mobile Technology Workstation, Type 1, Gray Surface Plus Cabinet, 6 Foot	1	\$	1,825	\$	1,825
90-EC1A	Electric Relay Control Learning System Requires 100-240V/50-60Hz/1ph electrical and compressed air.	1	\$	3,270	\$	3,270
	Includes: (1) Control Console; (1)24 VDC Power Supply; (1) Relay Control Components; (1) Electro-Pneumatic Component Set; (1) Electric Motor; (1) M16727 Student Curriculum - Interactive PC-Based Multimedia; (1) C16727 Instructor's Guide; (1) K16727 Instructor's Resource Print CD; (1) D16727 Installation Guide; (1) H16727 Student Reference Guide.					
82-610GC	Mobile Technology Workstation, Type 1, Gray Surface Plus Cabinet, 6 Foot	1	\$	1,825	\$	1,825
990-ELE1	Portable Power and Control Electronics Learning System Requires 17539 Oscilloscope or equivalent, 100-240V/50-60Hz/1ph electrical.	1	\$	10,207	\$	10,207
	Includes: (1) Portable Console; (1) FaultPro Electronic Troubleshooting System; (1) Power Cord; (1) Amplifier and Relay Panel; (1) Discrete Sensor and Power Supply Panel; (1) Semiconductor and Speed Control Panel; (1) Electronic Sensor Set; (1) Target Set; (1) Lead Set; (1) Digital Multimeter; (1) M11128 Student Curriculum - Interactive PC-Based Multimedia; (1) C11128 Instructor's Guide; (1) K11128 Instructor's Resource Print CD; (1) D11128 Installation Guide; (1) H11128 Student Reference Guide.					
17539	Oscilloscope Bench type oscilloscope with 6" monochrome display, 50 MHz bandwidth, and signal generator.	1	\$	1,220	\$	1,220



82-610GC	Mobile Technology Workstation, Type 1, Gray Surface Plus Cabinet, 6 Foot	1	\$	1,825	\$	1,825
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2nd & 3rd Trimesters - TCAT Murfreesboro

PART #	DESCRIPTION	QTY	PRICE	TOTAL
Section 1: Maintenance Operations				
950-MPF1	Mechanical Fabrication 1 Learning System Requires 120V/60Hz/1ph electrical, compressed air Includes: (1) Workstation; (1) Construction Panel; (1) Fabrication Parts Kit; (1) Mechanical Parts Kit; (1) Skill Component Set; (1) Pneumatic Kit; (1) Fabrication Tools Kit; (1) Mechanical Fabrication Component Set; (1) Fabrication Parts Set; (1) Mechanical Tools Kit; (1) Hardware Kit; (1) Bolt Stretch Kit; (1) M19004 Student Curriculum - Interactive PC-Based Multimedia; (1) C19004 Instructor's Guide; (1) K19004 Instructor's Resource Print CD; (1) D19004 Installation Guides; (1) H19004 Student Reference Guide.	1	\$ 8,912	\$ 8,912
				
950-RGB1	Rigging 1 Learning System Requires 120V/60Hz/1ph electrical, 12 feet overhead clearance, 41216 Hand Tool Package, and 41217 Ladder. Includes: (1) Gantry Crane with Rigging Storage System; (1) Electric Wire Rope Hoist and Trolley; (1) Hand Chain Hoist; (1) Load Package including various types of loads, fixtures; (1) Wire Rope Sling Package; (1) Chain Sling Package; (1) M18689 Student Curriculum - Interactive PC-Based Multimedia; (1) C18689 Instructor's Guide; (1) K18689 Instructor's Resource Print CD; (1) D18689 Installation Guide; (1) H18689 Student Reference Guide.	1	\$ 14,332	\$ 14,332
				
41216	Hand Tool Package - Rigging Adds to 950-RGB1 and 950-RNGB1.	1	\$ 1,220	\$ 1,220
41217	Rigging Ladder Adds to 950-RGB1 and 950-RNGB1.	1	\$ 451	\$ 451
95-RGB2	Rigging 2 Learning System Adds to 950-RGB1. Includes: (1) Synthetic Sling Package; (1) Equipment Movement Package; (1) Protection Pad; (1) Come-Along; (1) M18690 Student Curriculum - Interactive PC-Based Multimedia; (1) C18690 Instructor's Guide; (1) K18690 Instructor's Resource Print CD; (1) D18690 Installation Guide; (1) H18690 Student Reference Guide.	1	\$ 2,488	\$ 2,488
				



950-PS1	<p>Piping Learning System Requires 82-612E Workstation w/Vise, 41212 Hand Tool Package, 18869 Pipe Storage Rack, 18868 Pipe/Hose Machine Package, external water source, 18870 Consumable Package, and 120V/60Hz/1ph electrical.</p> <p>Includes: (1) Mobile Workstation; (1) Pump/Tank System; (1) Valve Package; (1) Fitting Package; (1) BB526 Student Learning Activity Packet; (1) CB526 Instructor's Guide; (1) KB526 Instructor's Resource Print CD; (1) DB526 Installation Guide; (1) HB526 Student Reference Guide.</p>	1	\$	10,782	\$	10,782
						
82-612E	<p>Mobile Technology Workstation, Type 3, Maple Surface Plus Vise, 6 Foot</p> <p>Includes: (1) Welded Steel Frame; (1) Solid Hard Maple Work Surface; (4) Casters, (1) Vise. Dimensions: 30"H x 30"W x 72"L.</p>	1	\$	1,745	\$	1,745
41212	<p>Hand Tool Package - Piping Adds to 950-PS1.</p>	1	\$	1,269	\$	1,269
18869	Pipe Storage Rack for 950-PS1 Piping Systems Learning System	1	\$	875	\$	875
18868	Pipe/Hose Machine Package for 950-PS1	1	\$	16,312	\$	16,312
18870	Consumables Package for 950-PS1 Piping Systems Learning System. Supplies one 2-student pair.	1	\$	1,426	\$	1,426
970-ME1	<p>Mechanical Drives 1 Learning System Requires 41227 Hand Tool Package and 120V/60Hz/1ph electrical.</p> <p>Includes: (1) Mobile Workstation; (1) Motor Base Package; (1) Bearing Package; (1) Prony Brake; (1) Shaft and Standoffs Package; (1) Rotary Power Component Package; (1) Alignment Package; (1) Gauging Package; (1) Digital Tachometer; (1) Toolbox; (1) Lockout/Tagout Kit; (1) M19146 Student Curriculum - Interactive PC-Based Multimedia; (1) C19146 Instructor's Guide; (1) K19146 Instructor's Resource Print CD; (1) D19146 Installation Guide; (1) H19146 Student Reference Guide.</p>	1	\$	12,863	\$	12,863
						
41227	<p>Hand Tool Package 1 - Mechanical Adds to 970-ME1.</p>	1	\$	1,166	\$	1,166

97-ME2	<p>Mechanical Drives 2 Learning System</p> <p>Adds to 970-ME1 Mechanical Drives 1 Learning System. Requires 18588 Viscosimeter.</p> <p>Includes: (1) Coupling/Sprocket Package; (1) Belt Package; (1) Chain Package; (2) Components Packages; (1) Indicator Package; (1) M19152 Student Curriculum - Interactive PC-Based Multimedia; (1) C19152 Instructor's Guide; (1) K19152 Instructor's Resource Print CD; (1) D19152 Installation Guide; (1) H19152 Student Reference Guide.</p>	1	\$	6,640	\$	6,640
						
18588	<p>Viscosimeter (Saybolt Universal Second)</p> <p>Required for 95-ME2 Mechanical Drives 2 and 97-ME2 Mechanical Drives 2 Learning System.</p>	1	\$	762	\$	762
97-ME2A	<p>Laser Shaft Alignment Learning System</p> <p>Adds to 97-ME2 Mechanical Drives 2 Learning System and 970-ME1 Mechanical Drives 1 Learning System.</p> <p>Includes: (1) Laser Alignment System with Mounting Hardware; (1) M19166 Student Curriculum - Interactive PC-Based Multimedia; (1) C19166 Instructor's Guide; (1) K19166 Instructor's Resource Print CD; (1) D19166 Installation Guide; (1) H19166 Student Reference Guide.</p>	1	\$	14,202	\$	14,202
						
850-CD2	<p>Basic Fluid Power Learning System - Double Sided A-Frame Bench with One Hydraulic Manifold</p> <p>Requires pneumatic power supply or conditioned (dry and filtered) shop air, 16393 or 16391 Hydraulic Oil, 41220 Hand Tool Package. Bench can accommodate 3 additional pneumatic or hydraulic option panels.</p> <p>Includes: (1) A-Frame Double Sided Controls Technology Bench; (1) 85-HPS Hydraulic Power Supply; (1) Basic Hydraulic Actuator Panel; (1) Basic Hydraulic Valves Panel; (1) Basic Hydraulic Instrumentation Panel; (1) 85-HHF Hydraulic Hose and Fittings Package; (1) Basic Pneumatics Actuator/Valve Panel; (1) Basic Pneumatics Instrumentation Panel; (1) 85-PHF Pneumatic Hose and Fittings Package; (1) 16141 Bench Manifold Kits; (1) NB831 and MB834 Student Curriculum - Interactive PC-Based Multimedia; (1) CB831 and CB834 Instructor's Guide; (1) KB831 and KB834 Instructor's Resource Print CD; (1) DB831 and DB834 Installation Guide; (1) HB831 and HB834 Student Reference Guide.</p>	1	\$	18,985	\$	18,985
						
16391	Hydraulic Oil 10 Gallon	1	\$	380	\$	380
41220	<p>Hand Tool Package - Hydraulic Systems</p> <p>Adds to 850-C1, 850-CD1, 850-H1, 850-HD1, 85-BH, 950-HT1, and 96-HYD1.</p>	1	\$	1,404	\$	1,404

85-IP	<p>Intermediate Pneumatics Learning System Adds to basic pneumatics systems (850-P1, 850-PD1, 850-C1, 850-CD1, or 85-BP). Requires 41221 Hand Tool Package</p> <p>Includes: (1) 85-IP-H Intermediate Pneumatic Module; (1) MB835 Student Curriculum - Interactive PC-Based Multimedia; (1) CB835 Instructor's Guide; (1) KB835 Instructor's Resource Print CD; (1) DB835 Installation Guide; (1) HB835 Student Reference Guide.</p>	1	\$	2,426	\$	2,426
						
41221	<p>Hand Tool Package - Pneumatic Systems Adds to 85-IP, 950-PT1, 990-PN1 and 96-PNE2.</p>	1	\$	638	\$	638
85-IH	<p>Intermediate Hydraulics Learning System Adds to basic hydraulics systems (850-H1, 850-HD1, 850-C1, 850-CD1, or 85-BH). Also requires 79-552 Accumulator Charging Assembly.</p> <p>Includes: (1) 85-IH-H Intermediate Valve Module; (1) MB832 Student Curriculum - Interactive PC-Based Multimedia; (1) CB832 Instructor's Guide; (1) KB832 Instructor's Resource Print CD; (1) DB832 Installation Guide; (1) HB832 Student Reference Guide.</p>	1	\$	5,605	\$	5,605
						
85-MT2	<p>Basic Electrical Machines Learning System (Regular Banana Leads) Requires 208V/60Hz/3 ph, 41201 Hand Tool Package, and 18414 Photo Tachometer.</p> <p>Includes: (1) 613-01W Motors Workstation, (1) Dual Motor Mounting Platform, (1) Digital Instrumentation Module with AC volts, DC volts, DC current, (1) EL613-43 Prony Brake Unit; (1) 613-14 AC 3-phase Induction Motor; (1) 613-31 DC Motor/Generator; (1) 613-13 AC Single Phase Multi-purpose Motor for Capacitor start, Capacitor Run, Permanent Capacitor; (1) 613-13 Split-Phase AC Motor; (1) EL613-91D Regular Banana Lead Set; (1) MB862 Student Curriculum - Interactive PC-Based Multimedia; (1) CB862 Instructor's Guide; (1) KB862 Instructor's Resource Print CD; (1) DB862 Installation Guide; (1) HB862 Student Reference Guide.</p>	1	\$	11,597	\$	11,597
						
41201	<p>Hand Tool Package - Electrical Machines Adds to 85-MT2.</p>	1	\$	154	\$	154
18414	Photo Tachometer	1	\$	583	\$	583

85-MT2E	Electric Motor Troubleshooting Learning System (Regular Banana Leads) Adds to 85-MT2 Basic Electrical Machines.	1	\$	2,753	\$	2,753
	Includes: (1) Megohmmeter; (1) Motor Connection Box; (1) Motor Fault Plug Set; (1) Regular Banana Lead Set; (1) M45129 Student Curriculum - Interactive PC-Based Multimedia; (1) C45129 Instructor's Guide; (1) K45129 Instructor's Resource Print CD; (1) D45129 Installation Guide; (1) H45129 Student Reference Guide.					
82-610GC	Mobile Technology Workstation, Type 1, Gray Surface Plus Cabinet, 6 Foot	1	\$	1,825	\$	1,825
85-MT5	Electric Motor Control Learning System Requires EL613-43 Prony Brake, 41202 Hand Tool Package, and 208V/60Hz/3 ph.	1	\$	11,728	\$	11,728
85-MT5	Electric Motor Control Learning System Requires EL613-43 Prony Brake, 41202 Hand Tool Package, and 208V/60Hz/3 ph.	1	\$	11,728	\$	11,728
	Includes: (1) Manual Fault Insertion System with 35 faults total for 10 modules; (1) Interface to 890-FTS1 Automatic Fault Insertion System; (1) Tabletop Workstation Console with Slide-in Guides; (1) N17401 Student Curriculum - Interactive PC-Based Multimedia; (1) C17401 Instructor's Guide; (1) K17401 Instructor's Resource Print CD; (1) D17401 Installation Guide; (1) H17401 Student Reference Guide.					
EL613-43	Prony Brake Includes: hub, brake unit and coolant unit.	1	\$	781	\$	781
41202	Hand Tool Package - Motor Control Adds to 85-MT5.	1	\$	418	\$	418
890-FTS1	Fault Troubleshooting System Adds to the 85-MT5 Electric Motor Control Learning System using USB interface.	1	\$	3,510	\$	3,510
	Includes: (1) Fault Controller Module with microprocessor fault insertion (random or single), power supply, 35 faults; (35) fault cables; (1) 11164 FaultPro USB 4.0 Electronic Troubleshooting Software; (1) User's Guide; (1) USB cable and interface; (1) Power ON/OFF Switch; (1) On-Line Fault Control, both manual and automatic; (1) Student Response Data Tracking; (1) Instructor Configuration Module.					



85-MT5A	<p>Motor Braking Learning System (Regular Banana Leads) Adds to the 85-MT5 Electric Motor Control Learning System..</p> <p>Includes: (1) Electromagnetic Brake; (1) DC Braking Station; (1) Inertial Load Device; (1) Flywheel; (1) M17402 Student Curriculum - Interactive PC-Based Multimedia; (1) C17402 Instructor's Guide; (1) K17402 Instructor's Resource Print CD; (1) D17402 Installation Guide; (1) H19700 Student Reference Guide.</p>	1	\$	4,182	\$	4,182
						
85-MT5B	<p>Reduced Voltage Starting Learning System (Regular Banana Leads) Adds to 85-MT5 Electric Motor Control Learning System. Allows training in 3-phase Wye-Delta power distribution as well as reduced voltage starting.</p> <p>Includes: (1) Power Resistor Station with 3 power resistors; (1) Dual Transformer Station; (1) M17403 Student Curriculum - Interactive PC-Based Multimedia; (1) C17403 Instructor's Guide; (1) K17403 Instructor's Resource Print CD; (1) D17403 Installation Guide; (1) H19700 Student Reference Guide.</p>	1	\$	1,924	\$	1,924
						
85-MT5C	<p>Variable Frequency AC Drive Learning System (Regular Banana Leads) Adds to 85-MT5 Electric Motor Control Learning System.</p> <p>Includes: (1) Programmable Variable Frequency AC Drive; (1) Potentiometer; (1) Maintained Switch; (2) Momentary Switches; (1) Fault Module With (5) Faults; (1) Motor Connection Panel; (1) M17411 Student Curriculum - Interactive PC-Based Multimedias; (1) C17411 Instructor's Guide; (1) K17411 Instructor's Resource Print CD; (1) D17411 Installation Guide; (1) H19700 Student Reference Guide.</p>	1	\$	2,694	\$	2,694
						
85-MT5D	<p>Electronic Sensors Learning System (Regular Banana Leads) Adds to 85-MT5 Electric Motor Control Learning System.</p> <p>Includes: (1) Electronic Sensors Station with: (1) Inductive Proximity Sensor, (1) Capacitive Proximity Sensor, (1) Photo-Electric Proximity Sensor; (1) Target Set; (1) M17404 Student Curriculum - Interactive PC-Based Multimedia; (1) C17404 Instructor's Guide; (1) K17404 Instructor's Resource Print CD; (1) D17404 Installation Guide; (1) H19700 Student Reference Guide.</p>	1	\$	1,505	\$	1,505
						
82-610GC	<p>Mobile Technology Workstation, Type 1, Gray Surface Plus Cabinet, 6 Foot</p>	1	\$	1,825	\$	1,825

95-MSB2AB	<p>Skill Boss Smart Factory - Allen-Bradley</p> <p>Either 95-MSB1 or 95-MSB2AB is required for MSSC's CPT+ Certification to assess manufacturing skills in the fields of Safety, Quality, Production Processes, and Maintenance Awareness. Requires 120V/60Hz/1ph electrical, 33934 Hand Tool Package, and compressed air.</p> <p>Includes: (1) Workstation, (1) Operator Station, (1) Parts Feeder, (1) C34101 Instructor's Guide, (1) D34101 Maintenance and Operation Manual, (1) K34101 Instructor's Resource PCD.</p>	1	\$	17,767	\$	17,767
33934	<p>Hand Tool Package - Skill Boss</p> <p>Adds to 95-MSB1 and 95-MSB2AB.</p>	1	\$	1,475	\$	1,475
82-610GC	<p>Mobile Technology Workstation, Type 1, Gray Surface Plus Cabinet, 6 Foot</p>	1	\$	1,825	\$	1,825
TTA-Install	<p>Optional - TTA Technician Installation onsite - unpacking, inventory, and operation of all units. Travel cost included.</p>	1	\$	8,000	\$	8,000
				Shipping Estimate	\$	5,000

